

## REMARKS

The last Office Action of January 30, 2003 has been carefully considered. Reconsideration of the instant application in view of the foregoing amendments and the following remarks is respectfully requested.

Claims 1-8, 10 and 11 are pending in the application. Claims 1, 3-5 have been amended. The claim surcharge of \$84.00 for presenting one independent claim in excess of three is enclosed.

It is noted that claims 1-3, 5-7 and 10-11 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 4-5, 7-8 and 11 stand rejected under 35 U.S.C. §102(b) as being anticipated by Melamed, of record.

Claims 1-3, 6 and 10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Melamed in view of U.S. Pat. No. 5,615,043 (hereinafter "Plaessmann et al.").

### REJECTION UNDER 35 U.S.C. §112, SECOND PARAGRAPH

The rejection of claims 1-3, 5-7 and 10-11 under 35 U.S.C. §112, second paragraph, has been addressed by amendments to claims 1 and 5. The term "close proximity" has been replaced with "a short distance", and it is further specified that "the laser rod is arranged asymmetrically between the output mirror

and the rear mirror." Support for this feature can be found on page 4, line 5 and line 12, of the specification. Applicant submits that reciting the asymmetric arrangement of the laser rod removes the indefiniteness.

Withdrawal of the rejection of the claims 1-3, 5-7 and 10-11 under 35 U.S.C. §112, second paragraph is thus respectfully requested.

#### **REJECTION UNDER 35 U.S.C. §102(b)**

The rejection of claims 4, 5, 7, 8 and 11 under 35 U.S.C. §102(b) as being anticipated by Melamed is hereby traversed and reconsideration thereof is respectfully requested in view of remarks set forth below.

Melamed discloses embodiments (Figs. 1 and 2) with a convex rear mirror 12, 13. The output (external) mirror 11 (Fig. 1) is planar, whereas the output (external) mirror 14 (Fig. 2) is convex. In col. 4, lines 45-47, Melamed suggests alternate embodiments in which instead of an external arrangement of resonator mirrors, the ends of the rod may be ground to the same curvatures. Accordingly, Melamed only discloses embodiments wherein both ends represent resonator mirrors.

Conversely, to claim 4 recites that a rear mirror is arranged outside the laser rod by reciting that "the rear mirror is convex, the end of the laser rod facing the mirror is planar."

Even if the term "the ends" used by Melamed is not interpreted as "both

ends", and if the rear mirror 12, 13 is arranged outside of the rod and only the coupling mirror 11, 14 is integrated with the end of the rod, one still does not arrive at the subject matter recited to claim 4. The embodiments depicted in Figs. 1 and 2 would result in a configuration, where the end of the laser rod representing the coupling mirror is either planar (Fig. 1) or concave (Fig. 2).

Applicant therefore submits that Melamed does not disclose, teach or suggest the subject matter recited in claim 4.

The subject matter recited in amended claim 5 is directed to an embodiment wherein the rod end is convex and the coupling mirror is arranged outside the rod, wherein the shape of the coupling mirror is not specified.

Melamed only describes embodiments where either the rod end itself forms the resonator mirror or where the resonator mirror is arranged outside a rod having a planar rod end.

Applicant therefore submits that Melamed does not disclose, teach or suggest the subject matter recited in claim 5.

As for the rejection of the dependent claims 7-8, and 11, these claims depend on claims 4, 5, share their presumably allowable features, and therefore it is respectfully submitted that these claims should also be allowed.

Withdrawal of the rejection of claims 4-5, 7-8 and 11 under 35 U.S.C. §102(b) and allowance are thus respectfully requested.

## REJECTION UNDER 35 U.S.C. §103(a)

The rejection of claims 1-3, 6 and 10 under 35 U.S.C. §103(a) as being unpatentable over Melamed in view of Plaessmann et al. is hereby traversed and reconsideration thereof is respectfully requested in view of remarks set forth below.

Claim 1 of the present invention, as amended herein, now recites that "the laser exhibits a thermally induced positive lensing effect." The embodiments depicted in Fig. 1 and 2 of Melamed, when taken in combination with the shape of the end of the laser rod disclosed by Plaessmann (col. 8, lines 21 to 30), do not suggest this limitation. Plaessmann discloses explicitly that one or both ends of the laser rod must have a concave curvature to provide a positive lensing effect, which can then compensate the thermal lensing effect.

Conversely, the end of the laser rod facing the end mirror, as recited in claim 1 has also a convex curvature. Although the attribute "positive lensing effect" is not explicitly recited in the specification, this attribute is easily understood by a person skilled in the relevant art, since practically all solid-state lasers, with the exception of an "exotic" laser (Nd:YLF along one of its axes) and, more particularly, the rod materials explicitly recited in claims 7 and 8 show a positive thermal lensing effect.

For the reasons set forth above, it is applicant's contention that neither Melamed nor Plaessmann, nor a combination thereof teaches or suggests the features of the present invention, as recited in claims 1 and 3.

As for the rejection of the dependent claims 2, 6 and 10, these claims depend on claims 1 and 3, share their presumably allowable features, and therefore it is respectfully submitted that these claims should also be allowed.

Withdrawal of the rejection of claims 1-8, 10-11 under 35 U.S.C. §103(a) and allowance thereof are thus respectfully requested.

### **CONCLUSION**

Applicant believes that when the Examiner reconsiders the claims in the light of the above comments, he will agree that the invention is in no way properly met or anticipated or even suggested by any of the references however they are considered.

In view of the above presented remarks and amendments, it is respectfully submitted that all claims on file should be considered patentably differentiated over the art and should be allowed.

Reconsideration and allowance of the present application are respectfully requested.

Should the Examiner consider necessary or desirable any formal changes anywhere in the specification, claims and/or drawing, then it is respectfully requested that such changes be made by Examiner's Amendment, if the Examiner feels this would facilitate passage of the case to issuance. If the Examiner feels that it might be helpful in advancing this case by calling the

undersigned, applicant would greatly appreciate such a telephone interview.

Respectfully submitted,

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